



FACT SHEET

10 Extreme Rain and Flood Events in the US – All in 2022

2022 saw a historic level of flooding and extreme weather, and water utilities were faced with increasing pressure on infrastructure not designed for the effects of climate change. It is imperative that the federal government invest in water infrastructure to increase resilience and protect public health in the face of natural disasters.

These are the Top 10 Flood Events of 2022 and their effects on water infrastructure:

1. Kentucky – 636-year flood and 1,000-year rain event ([Source](#))

Date of the event: July 26-30

Estimated cost of damages: \$277 million+, \$16.8 million damage to water infrastructure ([Source](#))

Death tolls: 39 ([Source](#))

How it impacted water treatment facilities and other water infrastructure: Perry County's water infrastructure was "totally annihilated" by flash floods ([Source](#)), and parts of some counties could go without water service for 6 months to a year ([Source](#)).

3. Death Valley – 1,000-year flood and rainfall event ([Source](#))

Date of the event: August 5

Estimated cost of damages: \$12 million+ ([Source](#))

Death tolls: 0 ([Source](#))

How it impacted water treatment facilities and other water infrastructure: Flooding caused a major break in the water line for the Cow Creek Water system, which provides water for park residents and offices. This line break caused system failure during the flood ([Source](#)).

4. St Louis, Missouri – 1,000-year rainfall event ([Source](#))

Date of the event: July 25-26

Estimated cost of damages: \$87 million+ ([Source](#))

Death tolls: 0 ([Source](#))

How it impacted water treatment facilities and other water infrastructure: Rising floodwaters overwhelm water systems. Levees overtopped as rivers and streams flooded beyond their banks, making pumps useless as the floodwaters rose up from storm drains and filled streets and basements ([Source](#)).

5. Georgia – 1,000-year rainfall event ([Source](#))

Date of the event: September 4

Estimated cost of damages: Unknown

Death tolls: 0 ([Source](#))

How it impacted water treatment facilities and other water infrastructure: The City of Summerville had to issue a boil-water notice after its water filtration plant was flooded ([Source](#)). 8,500 households lost water service for 7 days ([Source](#)).

6. Dallas, Texas – 1,000-year flood and rainfall event ([Source](#))

Date of the event: August 21-22

Estimated cost of damages: \$4.5 billion-\$6 billion ([Source](#))

Death tolls: 1 ([Source](#))

How it impacted water treatment facilities and other water infrastructure: Dallas Water Utilities stated that the city's drainage system, which was built in the 90s, is no longer adequate for the more frequent and intense storms Dallas is set to experience in the future, combined with the massive development and increases in impermeable surfaces in the watershed in that time ([Source](#)).

7. Jackson, Mississippi – 1,000 year rain event ([Source](#))

Date of the event: August 24-25

Estimated cost of damages: \$1 billion ([Source](#))

Death tolls: 0 ([Source](#))

How it impacted water treatment facilities and other water infrastructure: Jackson, Mississippi suffered from complete failure of its water infrastructure and was on a boil water advisory for two months ([Source](#)). This failure stem from long term disinvestment in the water utility and a severe winter storm in 2021 ([Source](#)). The city has been under 300 boil water advisories in the last two years ([Source](#)).

8. Puerto Rico – Hurricane Fiona

Date of the event: September 18

Estimated cost of damages: \$1 billion+ ([Source](#))

Death tolls: 25 ([Source](#))

How it impacted water treatment facilities and other water infrastructure: More than 760,000 customers were without water service or dealing with significant interruptions due to Hurricane Fiona ([Source](#)). The rest of the population that still had water service were under a boil-water advisory ([Source](#)). The water infrastructure in Puerto Rico is too easily impacted by poweroutages and debris and sediment easily clogging water intake structures. It is time for an upgrade ([Source](#)).

9. Alaska – Typhoon Merbok

Date of the event: September 17

Estimated cost of damages: \$2.6 million+ ([Source](#))

Death tolls: 0 ([Source](#))

How it impacted water treatment facilities and other water infrastructure: Infrastructure in Alaska was not resilient enough to resist extreme weather from climate change. This storm alerted local authorities to how vulnerable their water and wastewater is to future storms as well ([Source](#)).

10. Florida – Hurricane Ian

Date of the event: September 28-30

Estimated cost of damages: \$30-60 billion, potentially one of the costliest storms in US history ([Source](#))

Death tolls: 101+ in Florida, 4 in North Carolina ([Source](#))

How it impacted water treatment facilities and other water infrastructure: At least a dozen wastewater treatment plants needed to release raw or partially treated sewage due to downpour from Hurricane Ian, threatening public health and rescuers that had to wade through the tainted floodwaters ([Source](#)). Collier County ([Source](#)), Lee County ([Source](#)), and Sarasota County ([Source](#)) all issued boil water notices.

About NACWA

For 50 years, the National Association of Clean Water Agencies (NACWA) has been the nation's recognized leader in legislative, regulatory and legal advocacy on the full spectrum of clean water issues, as well as a top technical resource for water management, sustainability and ecosystem protection interests.

NACWA represents public wastewater and stormwater agencies of all sizes nationwide. The Association's unique and growing network strengthens the advocacy voice for all member utilities, and ensures they have the tools necessary to provide affordable and sustainable clean water for all.

Our vision is to represent every utility as a NACWA member, helping build a strong and sustainable clean water future.



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